

Parallelia arcifera, sp. n.

Male.—Head, antennæ, palpi, collar, tegulæ, thorax, abdomen, and legs brown. Primaries brown, crossed near the base from the costal to the inner margin by a dark brown line; a wide dark brown band crosses the wing from the costal to the inner margin, where it comes to a point; the band is much angulated on the outer side; a dark brown spot at the apex: secondaries uniformly dark brown; the fringes of both wings brown. The underside brown.

Expanse $1\frac{3}{4}$ inch.

Hab. West Africa (*Mus. Druce*).

Ercheia chionopera, sp. n.

Female.—Head, antennæ, palpi, collar, tegulæ, thorax, abdomen, and legs dark brown; the thorax with some grey hairs mixed with the brown scales. Primaries dark brown, palest in the middle; a dark brown spot at the end of the cell; a waved white line near the base extending from the costal to the inner margin; a second brownish-white line beyond the cell; the fringe dark brown: secondaries dark brown, palest at the base, the apex white. Underside: primaries pale brown, the apex and a marginal row of small spots white: secondaries as above.

Expanse $2\frac{1}{4}$ inches.

Hab. West Africa, Victoria, Cameroons (*Mus. Druce*).

LXII.—*Descriptions and Records of Bees*.—XLIV.

By T. D. A. COCKERELL, University of Colorado.

Xylocopa lateralis, Say.

A female from Antigua, Guatemala (*W. P. Cockerell*), is referred with assurance to *X. lateralis*, hitherto known only in the male. The face is, of course, entirely black. Except for the fact that the wings are translucent reddish brown, with only a faint pinkish iridescence (instead of fuscous, shining blue), and the anterior tarsi have all the hair on inner side red, the insect seems not to differ from the Brazilian *C. crotolaria*, Schrottky. The width of the abdomen is $8\frac{1}{2}$ mm. Superficially the insect looks exactly like *X. micans*, Lep.

Xylocopa wilmattæ, sp. n.

♀.—Length about 32 mm. ; anterior wing 24.

Entirely black, with black hair ; structure of *X. brasilianorum*, but larger, the brown-black wings with bluish-green iridescence ; clypeus very broad, with very large punctures, the median smooth line poorly developed ; antennæ practically all dark ; tegulae black ; median process of posterior tibia strongly bifid.

Hab. Guatemala City, Guatemala (*W. P. Cockerell*).

Xylocopa wilmattæ gualanensis, subsp. n.

♀.—Length about 29 mm. ; anterior wing 21.

Wings with the same green iridescence, but the central part also with strong purple tints ; apex of scape and of second antennal joint a lively red ; median process of posterior tibiæ with the upper tooth obsolete, represented by a low rounded lobe ; third antennal joint proportionately shorter than in *wilmattæ*.

Hab. Gualan, Guatemala, Feb. 17, 1912 (*W. P. Cockerell*).

True *X. brasilianorum* (L.), which I possess from Jamaica and the Argentine Republic, has the wings with strong rosy-purple tints, more or less golden about the middle, but not at all bluish green. The anterior wings are 19 to 20 mm. long.

Another species, which I have heretofore confused with *X. brasilianorum*, must now be separated.

Xylocopa mexicanorum, sp. n.

♀.—Anterior wing 22 mm. long.

Wings dark fuliginous, with magnificent colours, the basal two-thirds prevailing violet, the apical third very bright blue-green ; clypeus evidently narrower than in *X. wilmattæ*, and the teeth of labrum closer together ; flagellum, except at base, obscure coffee-brown beneath ; smooth area on clypeus very well developed ; process on hind tibiæ as in *gualanensis*.

Hab. Rio Nautla, Vera Cruz, Mexico, March 18 ; two at flowers of plant no. 18 (*C. H. T. Townsend*).

Much larger than *X. nasica*, Pérez, and with the interocellar space rough and punctured.

Xylocopa fimbriata, Fabr., var. *motaguensis*, nov.

A female from Gualan, Guatemala, Feb. 1912 (*W. P. Cockerell*), has the wings a fine blue-green, bluer in the middle, and the broadly interrupted transverse frontal carina has its divisions longer and larger than in a specimen collected by W. W. Brown, Jun., at Saboga Island, Panama. The Panama insect also has the wings quite differently coloured, with no bright tints, but washed with obscure golden green, the apical field a little purplish. Lepageletier described *X. cornuta*, Lep., usually considered a synonym of *frontalis*, as having the frontal keel interrupted, whereas *fimbriata* was said to have it entire. Both came from Cayenne. According to the characters given by Lepageletier, both the Guatemala and Panama insects should be *cornuta*. Pérez describes great colour-variation in the wings of *X. fimbriata*. The colour of the wings of *cornuta*, as described by Lepageletier, accords sufficiently with the Panama insect. If Lepageletier's diagnosis of *fimbriata* is correct it is probable that *X. cornuta* is a good species, and the insect now described will then stand as *X. cornuta motaguensis*.

Agapostemon nasutus gualanicus, var. n.

♂.—Metathorax usually very blue; anterior and middle femora with much black or fuscous on the basal half; hind femora entirely black behind; hind tibiæ largely pale brownish; black abdominal bands very broad.

Hab. Gualan, Guatemala (*W. P. Cockerell*, 2); four males.

This appears to be a dimorphic form of *A. nasutus*, Sm., the typical form of which is abundant at Gualan. The broader abdominal bands and darker legs give it a distinct appearance.

I cannot separate the Gualan females into two lots.

Ceratina amabilis rhodochrysea, var. n.

♀ ♂.—Abdomen not so purple, more salmon-red, the hind margins of the segments broadly suffused with gold; head and thorax a bluer green.

♂.—Vertex dark purple-blue; face-markings consisting of a very large and thick reversed T on clypeus, and small triangular lateral marks (the female has no lateral face-marks, the lateral spots being clypeal); greater part of labrum and a small spot on each mandible cream-colour; middle and posterior femora angled below, the middle very obtusely; apex of abdomen with the sides convex and the

median tooth triangular, broad and short; fifth ventral segment with a pair of strong sharp apical spines. The end of the abdomen resembles that of *C. azteca*, but the median tooth is much shorter and broader.

Hab. Quirigua, Guatemala, Feb. 10, 1912; one of each sex (*W. P. Cockerell*, 16).

This was taken with true *C. amabilis*, Ckll., but the coloration is peculiar, and it seems best to give it a varietal name. In certain lights the gold of the abdomen shines greenish.

Ceratina wilmattæ, sp. n.

♀.—Like *C. amabilis*, but perhaps usually larger; the abdomen of a darker crimson-red, less strongly and densely punctured, especially on the fourth segment; wings very red; green of head and thorax more or less suffused with golden; vertex, and mesothorax more or less, dark bronze; pale spot on clypeus short though large, not much longer than broad; no lateral clypeal spots; anterior tibiae with a yellow spot at base, but no stripe.

Hab. Quirigua, Guatemala; two at yellow golden-rod-like flower (*W. P. Cockerell*).

Very close to *C. amabilis*, but, I believe, distinct.

Ceratina ignara, Cresson.

Two females and a male from Lake Amatitlan, Feb. 5 (*W. P. Cockerell*), must surely belong to *ignara*, as the females agree closely with Cresson's description. Compared with a specimen of *C. abdominalis*, H. S. Smith (from the type lot), they are almost identical, except that the wings are not nearly so dark, and especially not so red. The male (unknown to Cresson) differs considerably from Smith's account of male *abdominalis*, having the following salient characters:—Eyes very prominent, converging below; clypeus light yellow except the broad lateral margins; small elongate lateral face-marks, away from eye, pointing obliquely upwards and mesad; labrum black, with a minute pale dot; mandibles black, with the apex dark red; end of abdomen with a little tuft of hair; seventh segment produced into a very large broad truncate plate, very shallowly emarginate in the middle. The clypeal mark in the females is large. The sides of the apical plate in the male are much less sloping than in *abdominalis*.

Ceratina regalis, sp. n.

♂.—Length about 8 mm.

Exceedingly brilliant shining blue, with strong bluish-green tints on face and base of abdomen, a green suffusion also on scutellum and postscutellum; head very strongly and densely punctured; cheeks strongly and sparsely punctured, the upper part rather closely punctured in front and impunctate posteriorly; antennæ black, the flagellum with a whitish pruinosity; broad lower margin of clypeus (narrower at sides, deeply notched above in middle), short elongate lateral face-marks (separated from the light colour on clypeus), patch (notched above) in middle of labrum, and a very large subtriangular patch on each mandible, all cream-colour; mesothorax with small punctures, not dense except at sides; thorax without light markings; area of metathorax granular, rather poorly defined, plicate basally; femora blue (especially behind), the middle and hind ones obtusely angled below; tibiæ black, anterior ones greenish behind; tarsi dark, with white hair, except on inner side, where it is yellowish; tegulæ rufo-piceous. Wings strongly reddish infuscated, pallid basally; stigma and nervures dark. Abdomen with a broad pure black striated band across second and third segments, not reaching hind or lateral margins; seventh segment inconspicuous, appearing ventral. obtusely bilobed in the manner of *C. cobaltina*, but the lobes not so far apart; fifth ventral segment bispinose; venter of abdomen with glittering white hair, except the apical part, where it is brownish.

Hab. Gualan, Guatemala, Feb. 15, 1912 (*W. P. Cockerell*).

Resembles *C. cobaltina*, Cresson, differing by the notched clypeal mark, the closely punctured pleura, the darker wings, the absence of a stripe on anterior tibiæ, and the colour of the abdomen. From *C. polita*, Friese, it is readily known by the structure of the apex of the abdomen.

Ceratina quinquemaculata, sp. n.

♀.—Length a little over 7 mm.

Rather slender; head, thorax, and abdomen shining dark olive-green; face rather narrow; pubescence very scanty; head with bright chrome-yellow markings as follows—a broad bar on clypeus (almost reaching upper and lower margins, but not at all produced laterally), a large spot on each side of clypeus, a bar like that on clypeus, but smaller, on each side close to eyes (its middle a little below level of

antennæ), and a long broad stripe (pointed below) on cheeks; labrum and mandibles entirely dark, middle of labrum rugose, with large punctures; face smooth, with scattered large punctures; vertex with large punctures; mesothorax smooth on disc, anteriorly with close small punctures, the posterior margin and the scutellum with very numerous minute punctures; tubercles bright chrome-yellow or orange; area of metathorax finely granular; tegulae rufo-piceous. Wings dark reddish fuliginous; stigma dark and opaque. Legs black (the hind legs have collected white pollen); spurs pale ferruginous. Abdomen clavate, narrowed basally; first segment small, shining and impunctate; following segments with close fine punctures, the apical ones rugose as usual.

Hab. Antigua, Guatemala (*W. P. Cockerell*).

The face-markings strongly suggest *C. maculifrons*, Sm., but that is a more robust species, with a densely punctured head, very coarsely punctured thorax, &c. *C. punctulata*, Spin., is another species with the same general type of markings, but it has long, continuous, lateral face-marks and is very strongly punctured on head and thorax.

Ceratina xanthostoma, sp. n.

♂.—Length about 10 mm.

Head rather large, the face with very large more or less confluent punctures; the following markings are primrose-yellow—clypeus (except rather broad lateral, very narrow upper, and narrow lower margins, the last rufo-fuscous), small thorn-shaped lateral marks (at one point touching yellow of clypeus), labrum (except margins and two large spots), and rather small spot on mandibles; no yellow on cheeks or thorax; antennæ black; sides of face bright green, sides of clypeus dark purplish, supraclypeal region black, front suffused with crimson, vertex dark green, with a crimson band; cheeks dark blue-green, smooth, with a very well-defined band of punctures; mesothorax purplish black, with rather strong scattered punctures, the five impressed lines very distinct; scutellum yellowish green, rather closely punctured; postscutellum blue-green, with very small punctures; pleura very strongly and quite closely punctured, black, the posterior margin bluish; metathorax black, the area suffused with green; area of metathorax short, pointed posteriorly in middle, sharply bounded, its surface finely plicate and with a median keel; just below the boundary of the area, on each side, is a furrow; tegulae light rufous, dark

at base. Wings smoky translucent, not reddened; stigma and nervures dark reddish. Legs black, anterior femora dark blue behind; middle and hind femora obtusely angled below; spurs dark reddish; hair on inner side of tarsi light ferruginous; trochanters with a yellow apical band; anterior tibiæ with a small yellow streak. Abdomen bronzy black and yellow-green, the apical part bright golden green; first segment punctured in middle of disc and narrowly along hind margin; second segment more closely and finely punctured than third; seventh segment broad, shaped much as in *C. mexicana*, but the apical angle much less acute and the sides on each side of it much less concave; sixth ventral segment deeply excavated in middle, but not spined; the seventh dorsal has a little tuft of yellow hair at apex and one at each corner, these contrasting with the white hair of the ventral surface.

Hab. Gualan, Guatemala, Feb. 18, 1912 (*W. P. Cockerell*).

In the table by H. S. Smith (Trans. Amer. Ent. Soc. xxxiii. p. 116) this runs to *C. mexicana*, Cresson, to which it is evidently allied, but it differs in colour (e. g., *mexicana* has the face-marks "white or yellowish," the flagellum pale brown beneath, &c.) and in the structure of the apex of the abdomen.

Ceratina xanthostoma rufipennis, var. n.

♂.—Length about 8 mm.

Wings deeply stained with red; sides of face yellowish green; lateral and hind margins of mesothorax green; scutellum suffused with crimson anteriorly; area of metathorax less distinctly defined, very narrow (short) at sides, suffused with blue, the median part distinctly tricarinate; pleura a brilliant steel-blue, purplish in middle and green just below wings; a small yellow spot at base of anterior tibiæ, but the stripe evanescent. Neither in this nor in typical *xanthostoma* is there any sign of the pale line on lower anterior orbits found in male *mexicana*.

Hab. Gualan, Guatemala, Feb. 18, 1912 (*W. P. Cockerell*).

This looks like a distinct species, but I believe it is only a variety of *C. xanthostoma*.

Dianthidium gualanense, sp. n.

♂.—Length about 5 mm.

Black, with very large strong punctures; face, pleura, &c. with scanty white hair; clypeus (except narrow apical margin) and lateral face-marks extending along eyes to

middle of front (but separated from upper part of clypeus by a slender black wedge) pale yellow; a slender and obscure broadly interrupted yellow occipital band; mandibles with a round basal yellow spot; antennæ black, with the long flagellum dark reddish beneath; mesothorax and scutellum with very large punctures, as dense as possible; thorax wholly without light markings; scutellum projecting; base of metathorax with strong grooves; tegulæ black. Wings strongly dusky, the upper apical region very dark; b. n. falling a trifle short of t.-m.; submarginal cells about equal in size; second r. n. going far beyond end of second s.m. Legs black, the anterior tarsi bright ferruginous, and their tibiæ red in front; middle tarsi reddish, hind ones red at apex only. Abdomen strongly punctured, but the punctures very much smaller than those on thorax; markings of abdomen bright chrome-yellow, consisting of a patch on each side of first two segments, and entire bands, successively broader, on the following four; the bands on the fourth and fifth segments are suddenly narrowed laterally; seventh segment bidentate, the teeth triangular and widely separated; venter with much white hair.

Hab. Gualan, Guatemala, Feb. 18, 1912 (*W. P. Cockerell*).

The armature of the seventh abdominal segment is not unlike that of *Anthidium alpinum* (Moraw.), except that the teeth are much smaller and not nearly so close together. The pulvilli are large, as is normal for *Dianthidium*. The species shows some resemblance to *Dianthidium impatiens* (Smith), but that insect has yellow mandibles, yellow markings on thorax, &c.

Osmia erythrotricha, sp. n.

♀.—Length about $12\frac{1}{2}$ mm.

Black, with bright fox-red hair, pallid on the under side of head and thorax, extremely bright, becoming almost crimson-tinted, on abdomen above; ventral scopa bright ferruginous; mandibles broad, quadridentate; head and thorax strongly and closely punctured; tegulæ shining black, with few small punctures. Wings very dark, reddish fuliginous.

Hab. Guatemala (*Juan Rodriguez*).

Among the American species this is allied to *O. azteca*, Cresson, which is smaller and has a yellow scopa. The extraordinary thing is that *O. erythrotricha* looks exactly like *O. pseudoaurulenta*, Dours, which I have from Tangier. I should hardly know how to separate them, but that the African insect has red tegulæ, a less hairy face, much less

massive mandibles, and considerably shorter marginal and second submarginal cells. *O. pseudoaurulenta* nests in snail-shells; does the Guatemalan species do the same?

Perdita tropicalis, sp. n.

♂.—Length about $4\frac{1}{2}$ mm.

Head and thorax moderately shining, rather dark green, the metathorax varying to quite blue; hair of head and thorax white, long and rather abundant, the mesothorax quite hairy; head very broad, facial quadrangle broader than long, cheeks unarmed; clypeus broad and low, produced at sides, pale yellow except the broad upper margin, the upper limit of the yellow irregular; labrum pale yellow, as also the long mandibles except their broad rufous apices; lateral face-marks L-shaped, in the lower corners of the face; no supraclypeal or dog-ear marks; antennæ dark above, pale yellowish below; thorax without light markings; scutellum with a curious purplish-black tint; tegulæ hyaline, with a pale yellow spot. Wings hyaline, iridescent, the nervures and margin of stigma fuscous; marginal cell rather long. Legs pale yellowish testaceous, with long hairs; anterior and middle femora behind and hind ones on both sides with a large dark brown cloud; hind tibiæ with a brown suffusion. Abdomen shining, warm yellowish ochreous, the segments with dark fuscous subapical bands, which turn upwards at sides; first segment nearly all dark; venter reddish, without markings.

Hab. Gualan, Guatemala, Feb. 15, 1912 (*W. P. Cockerell*). Three collected from yellow flowers of a tree.

In my key to *Perdita* (Proc. Phil. Acad. 1896) this runs to 71, but is not close to either of the species there indicated, nor to the later-described species (*P. rhodura*, *P. mentzelium*), which also fall in this vicinity. In the face-markings, but not otherwise, there is a certain resemblance to *P. callicerata*. The species is as isolated as its geographical position would lead us to expect, although it presents no very striking features. The maxillary palpi are six-jointed, the first joint large; the labial palpi have the first joint about five times as long as the second.

Ptiloglossa mayarum, sp. n.

♀.—Agreeing with *P. mexicana* (Cress.), except as follows:—Abdomen shining olive-green, first segment with abundant long pale fulvous hair, except at sides, where it is dense and creamy white, but on the upper part of sides, at

junction of dorsal and ventral surfaces, largely stained with sooty; segments 2 to 4 have broad apical bands covered with appressed golden hair; the second and third segments, anterior to the bands, have thin appressed golden hair, not concealing the surface, but at extreme sides the hair is black, with white hair just below this on sides of venter; the fourth segment, except apically, has appressed black hair, but with golden hairs intermixed, especially in middle; the fifth and apex have strongly plumose sooty-grey hair; the hind legs have all the hair on inner side bright copper-red; on outer side of hind tibiæ the hair is posteriorly fuscous, anteriorly brownish white; labrum entirely clear red, strongly longitudinally sulcate in middle, the sides of the sulcus raised into prominent lips (the labrum of *mexicana* is not sulcate). The tegulae are light apricot-colour; hair of thorax above dense and very bright fulvous, tipped with fuscous; hair of upper part of pleura largely blackened. Wings strongly reddish.

Hab. Quirigua, Guatemala (*W. P. Cockerell*, 420).

Anthidium rodriguezii, sp. n.

♂.—Length about 20 mm.; anterior wing 13.

Black, with the mandibles except at apex, wedge-shaped lateral face-marks between clypeus and eyes, approximately the lower half of clypeus (the margin of the yellow W-shaped), the dorsal surface of scutellum, and the axillæ, all pale chrome-yellow; outer side of all the basitarsi, and large apical patch on middle tibiæ, pale yellow; abdomen black without markings; hair of head and thorax white, tinged with ochreous on face, vertex, and mesothorax; mesothorax with two very large discal patches of dark fuscous hair, almost united about middle; ocellar region with fuscous hairs; mandibles with two large teeth and three little ones; clypeus closely and finely punctured; antennæ entirely dark, not long; mesothorax strongly and densely punctured, the middle of disc shining, with the punctures sparser; scutellum with the edge projecting, emarginate in middle; tegulae black, with small punctures. Wings fuliginous, the colour somewhat dilute; upper part of marginal cell greatly darkened; b. n. going far basad of t. m.; second s. m. longer than first, receiving first r. n. very near its base, and second r. n. an equal distance beyond its apex; anterior legs with a dense fringe of shining white hair behind, especially on basitarsi; middle femora and tibiæ thickened, the tibiæ and tarsi with a long fringe of white hair behind; hind tibiæ with a long wedge-shaped

patch of dense white tomentum on the apical part posteriorly; hind basitarsi with a fringe of white hair on both sides; small joints of hind tarsi with some short red hair on inner side. Abdomen rather narrow, smooth and shining, strongly but not very densely punctured, without hair-bands, but segments 4 and 5 have a subapical fringe of scattered pale hairs, appearing more or less as bands in some lights; venter, especially at sides, with long, shining, white hair; apex broadly truncate, fringed with white hair, and tridentate, with a slender median tooth, and a larger one at each lateral corner; on the ventral surface, in front of each lateral apical tooth, is a large hook-like tooth. No distinct pulvilli.

Hab. Guatemala (*Juan Rodriguez*).

Mr. Rodriguez kindly gave a specimen to my wife when she visited him in Guatemala City. This is a most remarkable species, and when I first saw it I took it for a large Asilid fly of the *Laphria* type. I do not know any species to which it is closely related, but the armature of the seventh abdominal segment is not unlike that of *A. manicatum* (L.). The sixth segment, however, is simple, without lateral spines.

Colletes motaguensis, sp. n.

♀.—Length about 11 mm.

Black; abdomen rather narrow; hair of head and thorax greyish white and black, with the faintest creamy tint on face, but nowhere ochreous or fulvous; head broad; clypeus shining, with very dense and strong punctures running into striæ, lower margin undulate in middle; labrum with a long, almost linear, central pit, and a groove on each side of the pit-bearing eminence; malar space rather short, but not twice as broad as long; sculpture of vertex fine and indistinct, but the inner orbital raised line leaves the eye on the vertex, and continues halfway toward the lateral ocellus; antennæ short, the flagellum ferruginous beneath except at base; hair of face and cheeks pale, except a few dark hairs at sides of face below level of antennæ; vertex with a moderate amount of long black hair; mesothorax strongly and densely punctured, sparsely on posterior middle; scutellum smooth anteriorly, but the greater part strongly punctured; pitted transverse band on metathorax very narrow; prothoracic spines sharp and distinct; hair of mesothorax mixed black and greyish white, of scutello-mesothoracic suture all greyish white, forming a band, of scutellum all black, but of postscutellum nearly all greyish

white, of sides of metathorax black above and white below, of greater part of pleura black, but on ventral surface of thorax long, dense and white; tubercles fringed with white hair; tegulae shining dark piceous. Wings moderately dusky (greyish) throughout; stigma and nervures piceous; second s.m. very broad, receiving first r. n. about middle. Legs normal, with largely black hair; hind femora with a large pale scopa, full of cream-coloured pollen in the type specimen. Abdomen smooth and shining, without distinct punctures, the apical segments finely roughened; hind margins of segments with narrow white hair-bands, that on first failing in middle; apical part of fourth and fifth segments especially, before the band, with coarse black hairs; sixth segment with fine greyish hair, and with black bristles at sides.

Hab. Quirigua, Guatemala (*W. P. Cockerell*).

Related to *C. nautlanus*, Ckll., but that has entirely black antennae, well-punctured abdomen, &c. Also related to *C. senilis*, Sm., but that has clear wings, hair of face pale fulvous, &c.

Colletes antiguensis, sp. n.

♀.—Similar to *C. motaguensis*, but conspicuously more robust, and the shining, extremely minutely punctured abdomen is wholly without hair-bands; other differences are as follows: central pit of labrum broader; antennae longer, flagellum black; long hair of face with a good deal of black intermixed, and a little black on lower part of cheeks; hair of thorax above more abundant, no pale band along hind margin of mesothorax; hair of scutellum and postscutellum both black; metathorax with more black hair; hair of pleura all black, except a little on lower part posteriorly; hair on thorax beneath not conspicuously pale; tegulae punctured; hair of legs practically all black or sooty, except that on inner side of front tarsi, which is pale orange; first abdominal segment with long black hair.

Hab. Antigua, Guatemala (*W. P. Cockerell*).

Differs from *C. niger*, Swenk, by the partly grey hair, striate malar space, piceous spurs, &c. The anterior coxae are without spines. The prothoracic spines are small, wholly hidden by the long hair. The second joint of hind tarsi is large and triangular.

Prosopis gualanica, sp. n.

♂.—Length about 7 mm.

Black, with lemon-yellow markings; marginal cell and

beyond strongly infuscated; first r. n. meeting first t.-c.; scutellum and axillæ yellow; abdomen with continuous white hair-bands, very narrow on first, broad and conspicuous on second segment, hardly at all developed on the others, which have narrow brownish tegumentary margins. Very close to *P. maculipennis*, Smith, differing by the colour of the tibiæ, the thick anterior tibiæ black behind except at base and extreme apex, middle tibiæ black with a yellow basal spot (larger on inner size), hind tibiæ with about the basal two-fifths yellow. Also related to *P. mexicana*, Cress., but separated by the dark apex of wings, the much longer second submarginal cell, the dark middle tibiæ, and the white hair-bands on abdomen. The shape of the face and the face-markings agree with *mexicana*, but the mandibles are dark, not yellow as in *mexicana*. The sides of the clypeus are not so distinctly margined with black as in *maculipennis*. Among the South American species it is close to *P. paulistana*, Schrottky, but it differs especially in the basal area of the metathorax, which has a median enclosure, with four or five ridges, and on each side of this an enclosure with three or four oblique ridges: it also differs by the dark middle tibiæ, and the middle of the first abdominal segment with very large well-separated punctures (the second segment also has large punctures, but those of the third are very minute). The apical (lower) part of the metathorax is ferruginous.

Hab. Gualan, Guatemala, Feb. 18, 1912 (*W. P. Cockerell*).

Prosopis quadratifera, sp. n.

♂.—Length 4 mm.

Black, with lemon-yellow markings; face narrow, broadening above; mandibles, labrum, clypeus, large squarish supra-clypeal mark, and lateral face-marks all yellow; the lateral marks fill space between clypeus and supra-clypeal mark and eye, and go upwards as a narrow band along orbits to end in a point a little above level of middle of front; scape short and thick, yellow with a dark patch behind; flagellum long, submoniliform, dark coffee-brown, paler beneath; upper part of head and mesothorax extremely closely and finely punctured; scutellum and axillæ entirely dark: a very slender line on prothorax and greater part of tubercles yellow; pleura dull, finely and sparsely punctured; area of metathorax feebly ridged at base, its posterior margin very strongly defined, **W**-like, the median angle of the **W** forming two sides of a square apical area; tegulæ light ferruginous. Wings clear hyaline,

iridescent; the recurrent nervures joining the transverso-cubitals; second s.m. higher than broad (long). Femora black with the extreme apex ferruginous; anterior tibiae orange with a small dark bar on outer side; middle and hind tibiae rather broadly light yellow at base and narrowly ferruginous at apex; tarsi light ferruginous. Abdomen black, not hairy, with a sericeous impunctate surface; apex of venter light ferruginous.

Hab. Gualan, Guatemala (*W. P. Cockerell*, 9).

In my table in 'Entomologist,' 1898, this runs straight to *P. modesta*. In Lovell's table in 'Psyche,' 1910, it runs to *P. ziziae*. In Metz's (1911) table it runs out at 10, because the lateral face-marks extend far above antennal sockets and are very narrow, and scape is all yellow in front. The face-marks are not like any of Metz's figures. In Schrottky's Brazilian table it runs to *P. amazonica*, Grib., but differs by the entirely black dorsal surface of abdomen, &c. The species is best distinguished by the little square apical enclosure on the metathorax.

Mesoplia azurea guatemalensis, subsp. n.

♀.—Tegument of head and thorax black, without any bluish tint; first three antennal joints bright chestnut-red, rest of flagellum black, dark reddish beneath; labrum rugulose, nude, hairy only at lateral margins, the hair creamy white; sides of face covered with silver-white hair, not at all yellow; eyes dark purplish; posterior orbital margins with a band of silver-white hair; tubercles and tegulae bright ferruginous; mesothorax little hairy, with close fine punctures anteriorly, the posterior disc with excessively minute punctures and scattered larger ones; anterior margin of mesothorax with hair which is pale in the middle, seal-brown at sides; scutellum strongly bigibbous. Abdomen very brilliant blue, without hair-spots. Legs red, middle tibial spur with two long branches, of which the shorter and thicker is obscurely trifid at end and has two little spines on inner side.

Hab. Gualan, Guatemala, Feb. 23, 1912 (*W. P. Cockerell*, 40).

This seems to be a distinguishable race of *M. azurea*, Lep., described from the Island of Guadaloupe. It differs from *Mesoplia pilicrus* (*Melissa pilicrus*, Friese) by the bigibbous scutellum, unicolorous dorsal surface of abdomen, &c.; from *Mesoplia imperialis* (*Melissa imperialis*, Ashm.) by the prevailing white hair of head and thorax, red legs, &c.; from *Mesoplia insignis* (*Melissa insignis*, Sm.) by the white hair covering sides of face, the absence of black hair on labrum,

&c.; from *Mesoplia regalis* (*Melissa regalis*, Sm.) by the lack of green on head and thorax, the red scape, &c.; from *Mesoplia decorata* (*Melissa decorata*, Sm.) by the blue (not green) abdomen, minuteness of the spines on thicker branch of middle spur, pure white hair at sides of face, &c. The venation agrees with that of *M. decorata*. I restore the generic name *Mesoplia*, Lep. (type *azurea*), which seems to have been set aside by Smith without any adequate reason. The species are rather "critical," owing to the fact that they are not only closely allied,⁹ but it is difficult to secure sufficient material for examination.

Centris inermis gualanensis, subsp. n.

♀.—Length about 17 or 18 mm.

Only the hind legs with very much red; anterior tibiæ in front black with a yellow streak; a small triangular supra-clypeal mark; vertex with a broad band of brown-black hair; labrum yellow with a dark apical spot; hair of thorax above very bright orange-fulvous, not tipped with fuscous; wings very dark; a large blue-green patch on fourth abdominal segment.

♂.—Face-markings bright lemon-yellow; supra-clypeal mark large; scape yellow in front (with only a small pale stripe in female); labrum entirely yellow; all the femora largely black; second abdominal segment with a broadly interrupted bright yellow band, widening laterally.

Hab. Gualan, Guatemala, Feb. 22-23, 1912 (*W. P. Cockerell*, 40). The type is a female of this lot. A female was also taken at Quirigua, Feb. 20, 1912, on a bank (*W. P. Cockerell*). Superficially this looks like *C. bimaculata* or *C. proxima*.

POSTSCRIPT.—Captain John Donnell Smith has very kindly identified several of the plants, the flowers of which were visited by the bees described above, as follows:—

Vernonia aschenborniana, Schauer. Visited by *Agapostemon nasutus gualanensis*.

Ipomoea sidifolia, Choisy. Visited by *Ceratina amabilis rhodochrysea*.

Iresine pauciculata (L.), O. K. Visited by *Prosopis quadratifera*.

Cordia alba, Roem. et Schult. Visited by *Perdita tropicalis*.

Calopogonium ceruleum, Desv. Visited by *Mesoplia azurea guatemalensis* and *Centris inermis gualanensis*.